(i) one or more Insert Donor molecules comprising one or more desired nucleic acid segments flanked by at least two recombination sites, wherein said recombination sites do not substantially recombine with each other;

(ii) one or more Vector Donor molecules each comprising at least two recombination sites, wherein said recombination sites do not substantially recombine with each other;

(iii) an effective amount of at least one recombination protein; and

(iv) an effective amount of at least one ribosomal protein; and

(b) incubating said combination under conditions sufficient to transfer one or more of said desired segments into one or more of said Vector Donor molecules, thereby producing one or more desired Product nucleic acid molecules.

Please substitute the following claim 15 for currently pending claim 15:

15. (Once amended) The method of claim 14, further comprising:

(c) forming a combination by combining *in vitro*

(i) one or more of said Product molecules comprising said desired segments flanked by two or more recombination sites, wherein said recombination sites do not substantially recombine with each other;

(ii) one or more different Vector Donor molecules each comprising two or more recombination sites, wherein said recombination sites do not substantially recombine with each other;

(iii) an effective amount of at least one recombination protein; and

(iv) an effective amount of at least one ribosomal protein; and

(d) incubating said combination under conditions sufficient to transfer one or more of said desired segments into one or more different Vector Donor molecules, thereby producing one or more different Product molecules.

Please substitute the following claim 19 for currently pending claim 19:

---

19. (Once amended) A method for cloning or subcloning desired nucleic acid molecules comprising

a) forming a combination by combining *in vitro*

i) one or more Insert Donor molecules comprising one or more nucleic acid segments flanked by two or more recombination sites, wherein said recombination sites do not substantially recombine with each other;

ii) two or more different Vector Donor molecules each comprising two or more recombination sites, wherein said recombination sites do not substantially recombine with each other;

iii) an effective amount of at least one recombination protein; and

iv) an effective amount of at least one ribosomal protein; and

b) incubating said combination under conditions sufficient to transfer one or more of said desired segments into said different Vector Donor molecules, thereby producing two or more different Product molecules.

Please substitute the following claim 29 for currently pending claim 29:

29. (Once amended) The method of claim 14, wherein said recombination protein is selected from the group consisting of Int, Cre, FLP, Xis, IHF, FIS and HU, and combinations thereof.

Please substitute the following claim 31 for currently pending claim 31:

31. (Once amended) A method for recombinational cloning of one or more desired nucleic acid molecules comprising

(a) forming a mixture by mixing *in vitro* one or more of said desired nucleic acid molecules with one or more vectors and with an effective amount of at least one ribosomal protein and an effective amount of at least one recombination protein; and

(b) incubating said mixture under conditions sufficient to transfer said one or more desired nucleic acid molecules into one or more of said vectors.

Please substitute the following claim 32 for currently pending claim 32:

32. (Once amended) The method of claim 31, wherein said desired nucleic acid molecules are obtained from genomic DNA.

Please substitute the following claim 33 for currently pending claim 33:

33. (Once amended) The method of claim 31, wherein said desired nucleic acid molecules are obtained from cDNA.

Please substitute the following claim 37 for currently pending claim 37:

37. (Once amended) The method of claim 36, wherein said eukaryotic vector replicates in yeast cells, plant cells, fish cells, eukaryotic cells, mammalian cells, or insect cells.

A7

Please substitute the following claim 38 for currently pending claim 38:

38. (Once amended) The method of claim 31, wherein said prokaryotic vector replicates in bacteria of the genera *Escherichia*, *Salmonella*, *Bacillus*, *Streptomyces* or *Pseudomonas*.

Please substitute the following claim 39 for currently pending claim 39:

39. (Once amended) The method of claim 38, wherein said prokaryotic vector replicates in *E. coli*.

Please substitute the following claim 40 for currently pending claim 40:

40. (Once amended) A method for enhancement of recombinational cloning, comprising contacting at least two nucleic acid molecules each comprising at least one recombination site *in vitro* with one or more ribosomal proteins and with one or more recombination proteins to form a mixture, and incubating said mixture under conditions favoring the production of at least one product nucleic acid molecule.

Please substitute the following claim 50 for currently pending claim 50:

---

a8

50. (Once amended) The method of claim 40, wherein said recombination protein is selected from the group consisting of Int, Cre, FLP, Xis, IHF, FIS and HU, and combinations thereof.

Please add the following new claims:

-- 65. (New) The method of claim 31, wherein said ribosomal protein is a prokaryotic ribosomal protein.

a9

66. (New) The method of claim 31, wherein said ribosomal protein is an *Escherichia coli* ribosomal protein.

67. (New) The method of claim 31, wherein said ribosomal protein is a basic ribosomal protein.

68. (New) The method of claim 31, wherein said ribosomal protein has a molecular weight of less than about 14 kilodaltons.

69. (New) The method of claim 66, wherein said *E. coli* ribosomal protein is selected from the group of *E. coli* ribosomal proteins consisting of S10, S14, S15, S16, S17, S18, S19, S20, S21, L21, L23, L24, L25, L27, L28, L29, L30, L31, L32, L33 and L34.

70. (New) The method of claim 66, wherein said *E. coli* ribosomal protein is S20.

71. (New) The method of claim 66, wherein said *E. coli* ribosomal protein is L27.

72. (New) The method of claim 66, wherein said *E. coli* ribosomal protein is S15.

a9

73. (New) The method of claim 31, wherein said recombination protein is a eukaryotic recombination protein.

74. (New) The method of claim 31, wherein said recombination protein is selected from the group consisting of Int, Cre, FLP, Xis, IHF and HU, and combinations thereof.

75. (New) The method of claim 31, wherein said recombination protein is Int.

76. (New) The method of claim 31, wherein said composition further comprises one or more nucleic acid molecules selected from the group consisting of one or more Insert Donor molecules, one or more Vector Donor molecules, one or more Cointegrate molecules, one or more Product molecules and one or more Byproduct molecules.

77. (New) The method of claim 74, wherein said ribosomal protein is an isolated ribosomal protein.

78. (New) The method of claim 19, wherein said ribosomal protein is an isolated ribosomal protein.

79. (New) The method of claim 31, wherein said ribosomal protein is an isolated ribosomal protein.

80. (New) The method of claim 40, wherein said ribosomal protein is an isolated ribosomal protein.

81. (New) The method of claim 14, wherein said ribosomal protein is a recombinant ribosomal protein.

82. (New) The method of claim 19, wherein said ribosomal protein is a recombinant ribosomal protein.

83. (New) The method of claim 31, wherein said ribosomal protein is a recombinant ribosomal protein.

84. (New) The method of claim 40, wherein said ribosomal protein is a recombinant ribosomal protein.

85. (New) The method of claim 14, wherein said recombination protein is a recombinant recombination protein.

86. (New) The method of claim 19, wherein said recombination protein is a recombinant recombination protein.

a9 cont.'d

87. (New) The method of claim 31, wherein said recombination protein is a recombinant recombination protein.

88. (New) The method of claim 40, wherein said recombination protein is a recombinant recombination protein. --